

Restoration of Shortleaf Pine in Alabama

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It seems a bit strange to use the term restoration with a species as widely distributed as shortleaf pine. In Alabama, however, natural shortleaf pine (*Pinus echinata*) is often harvested without replanting. If the site is replanted, it is replaced with loblolly pine plantations. This is because loblolly pine is thought to be superior in growth compared to shortleaf. The soils and climatic conditions in many counties of north Alabama, however, often favor shortleaf over loblolly. One benefit to shortleaf is that it is less susceptible to ice damage than the longer-needled loblolly.

You might assume the threat of ice damage in Alabama is minimal, but it is not as infrequent as you may think. The Federal Emergency Management Agency (FEMA) keeps track of all major disasters across the United States. In the FEMA library listing major disaster declarations, Alabama has been listed four times since 1993 for winter storms, ice storms, or freezing rain. That is approximately one ice storm every three years or nine ice storms during a 30-year rotation. Makes you think, doesn't it!

Until recently, landowners that wanted to plant shortleaf pine were unable to do so with cost share assistance. Just this year, the USDA Natural Resources Conservation Service added shortleaf replanting to the Environmental Quality Incentives Program (EQIP). It was included in the Forest Health and Wildlife portion of EQIP to provide north Alabama landowners with a practical alternative to loblolly pine, without having to compromise their timber production goals.

If you are not familiar with shortleaf pine, it is one of the four most important southern pines. Shortleaf has the widest geographic range of any of its counterparts, and is second only to loblolly pine (*Pinus taeda*) in standing timber volume.

Shortleaf's expansive success can be attributed to its ability to grow on a wide range of soil and site conditions. It can withstand competition from other vegetation longer than most other pines. Found on drier ridge sites where there is less competing vegetation, the species will grow best on deep well-drained soils. Shortleaf is one of the few pines that can sprout from the root collar if the stem is damaged or killed by fire or other injuries, but only until age 8 to 12 years.



Common names include: Arkansas pine, Arkansas shortleaf pine, Arkansas soft pine, bull pine, Carolina pine, forest pine, North Carolina pine, old-field pine, short needle pine, and others.

One of the problems associated with shortleaf pine is "littleleaf disease." Littleleaf is the most serious disease of shortleaf pine in Alabama and the southern United States. The disease is caused by a complex of factors including the fungus *Phytophthora cinnamomi* Rands, low soil nitrogen, and poor internal soil drainage. Often, microscopic roundworms called nematodes and species of the fungal genus *Pythium* are associated with the disease. It is a particular problem on worn out, highly-eroded lands.

Because of the littleleaf disease problems in central and south Alabama, shortleaf pine planting under EQIP is only eligible in the following counties: Blount, Cherokee, Cullman, DeKalb,

Etowah, Jackson, Lawrence, Limestone, Madison, Marshall, Morgan, Walker, Winston, and those eastern portions of Colbert, Lauderdale, Fayette, Franklin, and Marion that are outside of the coastal plain soils.

Human uses: Lumber, plywood, pulpwood, structural materials, boxes, crates, and ornamental vegetation. The lumber is often of better quality than that produced by loblolly. Many log-home builders and owners prefer shortleaf logs to other pine species for its dense wood, aesthetics, and sound structural qualities.

Wildlife uses: Provides habitat and food for bobwhite quail (*Colinus virginianus*) and wild turkey (*Meleagris gallopavo*) after mid-rotation thinning and burning. Also, the early stages of a shortleaf plantation provide habitat for eastern cottontail rabbit (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), and a variety of songbirds.

Shortleaf Pine Headlines of Interest

The Georgia Forestry Commission is helping landowners plant shortleaf pine in low density stocking rates in an attempt to prevent, or minimize, impacts of future southern pine beetle infestations or to restore areas already impacted by these destructive insects.

The USDA Forest Service is studying the effects of restoring a closed, densely stocked shortleaf pine forest to the open pine woodland conditions described by early explorers in southern Missouri.

In the National Register of Big Trees, the champion shortleaf pine is located in Georgia and the co-champion is in Mississippi.

Editor's Note: The Alabama champion, located in Madison County, stands 84 feet high with a crown spread of 64.25 feet and a circumference of 138 feet. 🌲